

MODIS/VIIRS Sea-Ice Leads

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MODIS Sea-Ice Leads Product

- 2002-2019 dataset available at ftp://frostbite.ssec.wisc.edu
- Winter 2019-2020 dataset available by request, pending QA review

VIIRS Sea-Ice Leads Product

Winter 2019-2020 dataset available by request, pending QA review

Status and Updates:

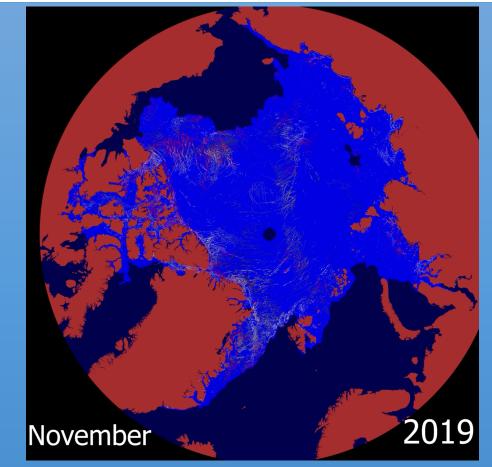
- Collected an 18-year (Nov 2002 -present) set of Arctic lead coverage.
- Developed and published a description of the lead detection alg.
 Compared results to some previous work done by others with MODIS and passive microwave data.
- Adapted the algorithm to VIIRS and began a comparison with MODIS.

Future Plans:

- Document and map the spatial and temporal distributions of sea ice leads (fractures) in the Arctic.
- Determine any changes and trends in the lead distributions and properties (concentration, width, and orientation).
- Correlate observed changes in leads with atmosphere and ice conditions.
- Provide a constraint on sea ice concentration for climate simulations.

Recent Publications:

Hoffman, J.P.; Ackerman, S.A.; Liu, Y.; Key, J.R. The Detection and Characterization of Arctic Sea Ice Leads with Satellite Imagers. Remote Sens. 2019, 11, 521.



VIIRS Leads detection from the winter of 2019/2020

- Red = Lead detection
- White->Black = Fade from white to black as lead detection ages from 2-10 days
- Bright blue = Lead coverage area (AMSR2 polar sea ice extent)
- Dark blue = Open water (no VIIRS lead product coverage)

Video available at: https://youtu.be/69tv1JHCzKI